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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/581,415

06/02/2006

Ulrich Maier

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7590

05/10/2010

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1423 POWHATAN STREET, UNIT ONE

ALEXANDRIA, VA 22314

EXAMINER

BROWN, PHYLLIS M

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

05/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,415	Applicant(s) MAIER ET AL.	
	Examiner MACADE BROWN	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This office action is responsive to the amendment filed on 1/29/10. As directed by the amendment: claims 10 and 27-29 have been amended, claims 1-9 have been cancelled and no new claims have been added. Thus, claims 10-29 are presently pending in this application.

Response to Arguments

Applicant's arguments filed 1/29/10 have been fully considered but they are not persuasive.

Regarding applicant's argument that Hanemann fails to teach a conduit (pg. 12, lines 6-13), the elements 43 of Hanemann are channels provided for conveying fluid, and thus the elements are conduits.

Regarding applicant's argument that Hanemann is non-analogous art, since it is "not from an inlet valve assembly for a high pressure pump (pg. 12, lines 14-20)," it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed, does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Regarding applicant's argument that Hanemann's swirl is intended to mix the fuel and air, not to improve wear properties of the valve (pg. 13, lines 6), the fact that applicant has a different purpose for the swirl being created does not alter the

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conclusion that its use in a prior art device would be prima facie obvious from the purpose disclosed in the reference. *In re Lintner*, 173 USPQ 560.

Regarding applicant's argument that due to the twists and turns imparted by the chamber, the mixture will no longer have swirl left (pg. 13, lines 7-15) and that the combination of Burkhardt et al. and Hanemann would not result in an inlet for a high pressure fuel pump, but would be an inlet to a sludge treatment vessel, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

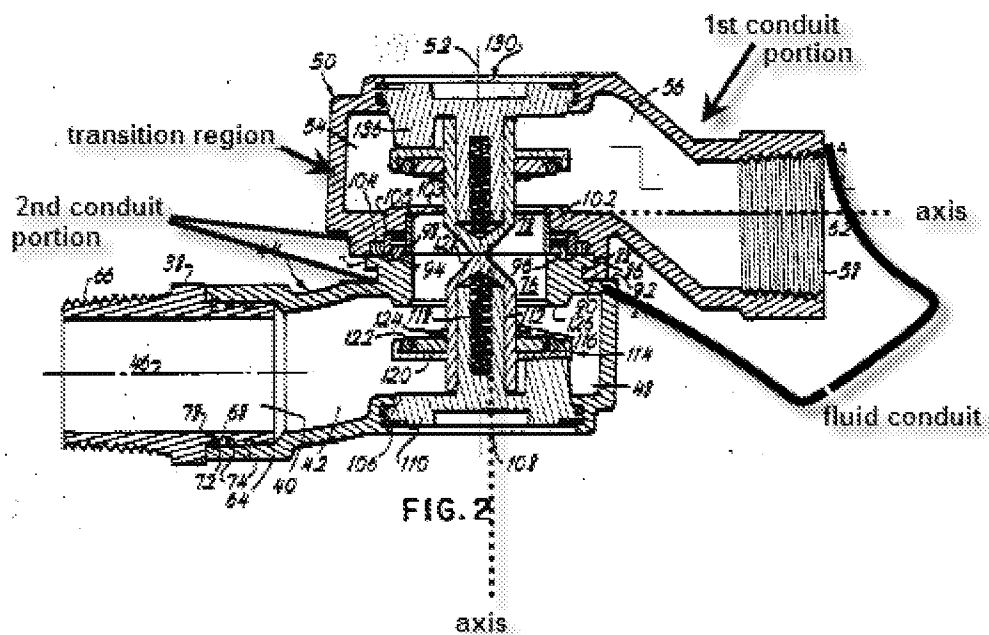
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

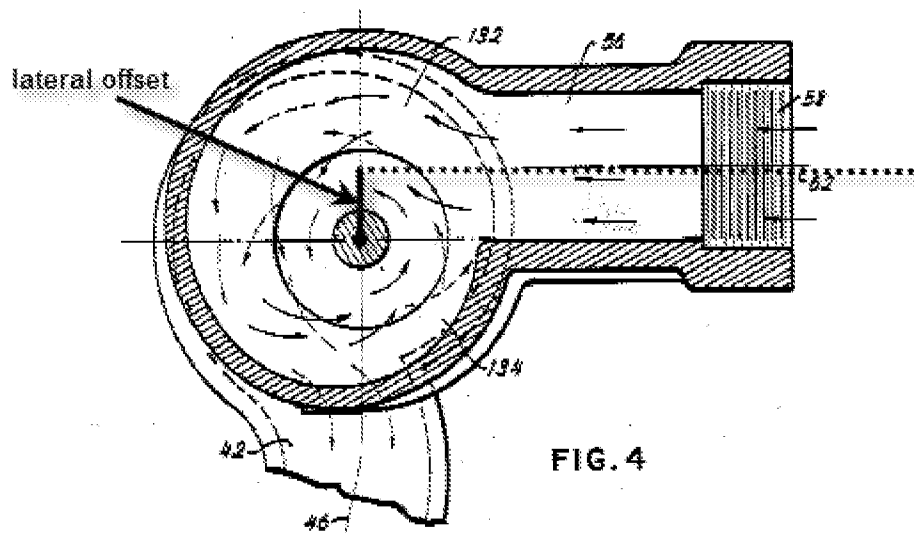
Claims 10-12, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nitzberg et al. (4,827,961).

Regarding claims 10-12, and 27, Nitzberg et al. teaches a valve element 114 (fig. 2) disposed in a valve chamber 48 and a fluid conduit (see below in fig. 2) adjoining the valve chamber 48 on the upstream side of the valve chamber 48, the valve element 114 alternatively opening and closing the fluid conduit on the upstream side of the valve chamber 48 (the valve is initially open and closes upon its removal from the conduit),

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the conduit has a substantially constant width and is capable of producing a swirl-type rotation about the longitudinal axis of the fluid conduit being impressed on the fluid stream that flows toward the valve chamber 48, without a constriction of the fluid stream being produced by the conduit in the production of the swirl-type rotation of the fluid; the conduit includes a first conduit portion and second conduit portion (see fig. 2 below) adjoining the first conduit portion, the longitudinal axes of the first and second conduit portions being at an angle less than 180 degrees to one another (see fig. 2 below), and the longitudinal axis for the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion (see fig. 4 below); the longitudinal axes of the first and second conduit portions are at least approximately at a right angle to one another (see fig. 2 below); the first conduit portion extends no more than a very small distance past the second conduit portion.





Note: Regarding the limitation, "embodied such that," it is noted that "while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

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the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13-15, 21, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitzberg et al. (4,827,961) and Meisenheimer, Jr. et al. (3,912,656).

Regarding claims 13-15, 21, and 25, Nitzberg et al. teaches a transition region 50 between the first conduit portion and the second conduit portion; wherein the transition region includes a wall that is curved from the first conduit portion to the second conduit portion (see fig. 2 above), but fails to disclose a ball as the valve element, and the transition region being machined by means of electrochemical removal of material.

Meisenheimer, Jr. et al. teaches a valve element being a ball, to present a smooth surface which cannot be forced open by impinging debris upon closing.

It would have been obvious to one of ordinary skill in the art at the time of invention, to employ in Nitzberg et al. a ball as the valve element, as taught by Meisenheimer, for the purpose of preventing the introduction of debris into the valve.

The patentability of a product does not depend on its method of production, i.e. electrochemical removal. If the product in the product-by process claim is the same as

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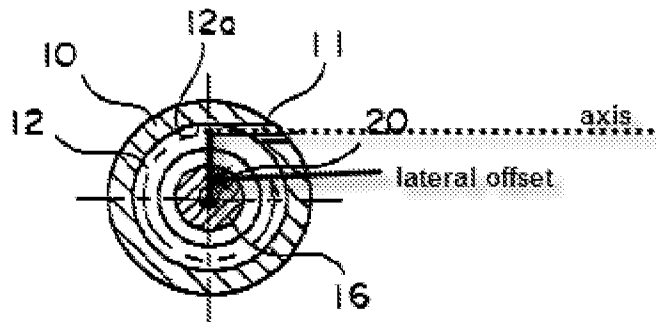
or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 16, 17, 22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitzberg et al. (4,827,961) and Urya et al. (7,370,669).

Regarding claims 16, 17, 22 and 26, Nitzberg et al teaches the first and second conduit portion, in cross section, have approximately the same radius; the transition region includes a wall that is curved from the first conduit portion to the second conduit portion (see fig. 2 above), but fails to disclose the lateral offset of the longitudinal axes is greater than the radius; the transition region being machined by means of electrochemical removal of material.

Urya et al. teaches a first and second conduit portions 11, 20 (figs. 1 and 2) having at least approximately the same radius, the lateral offset of the longitudinal axes is greater than the radius (see fig. 2 below), to reduce the amount of fluid colliding with working fluid newly flowing in through the inflow conduit 11, to stabilize the whirl flow of the fluid entering the flow path 12.

FIG. 2



It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in Nitzberg et al. a lateral offset of the longitudinal axes being greater than the radius, as taught by Urya et al, for the purpose of stabilizing the whirl flow of the fluid entering the flow path conduit.

The patentability of a product does not depend on its method of production, i.e. electrochemical removal. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nitzberg et al. (4,827,961) and Meisenheimer, Jr. et al. (3,912,656), as applied to claims 13-15 above, in view of Urya et al. (7,370,669).

Regarding claim 18, Nitzberg et al. teaches essentially all claimed features, but fails to disclose the lateral offset of the longitudinal axes being greater than the radius.

Urya et al. teaches a first and second conduit portions 11, 20 (figs. 1 and 2)

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having at least approximately the same radius, the lateral offset of the longitudinal axes is greater than the radius (see fig. 2 above), to reduce the amount of fluid colliding with working fluid newly flowing in through the inflow conduit 11, to stabilize the whirl flow of the fluid entering the flow path 12.

It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in Nitzberg et al. a lateral offset of the longitudinal axes being greater than the radius, as taught by Urya et al, for the purpose of stabilizing the whirl flow of the fluid entering the flow path conduit.

Claims 19, 20, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nitzberg et al. (4,827,961).

Regarding claims 19, 20, 23, and 24, Nitzberg et al. teaches essentially all claimed features, but fails to disclose the transition region being machined by means of electrochemical removal of material.

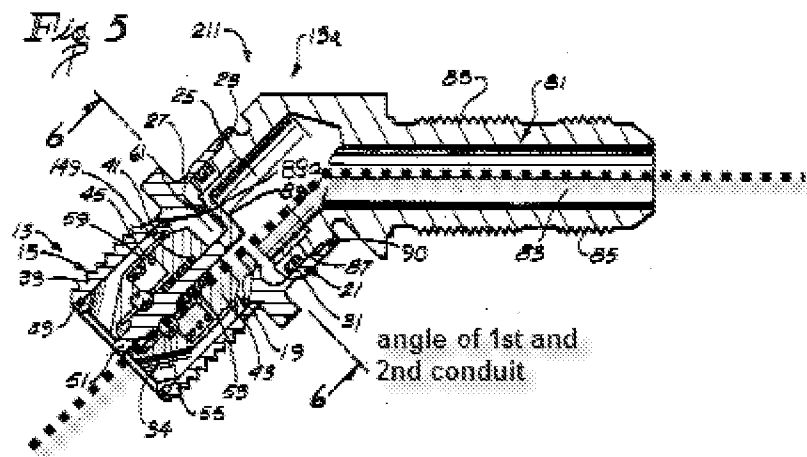
The patentability of a product does not depend on its method of production, i.e. electrochemical removal. If the product in the product-by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claims 10, 11, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torres et al. (3,797,510) and Nitzberg et al. (4,827,961).

Regarding claims 10, 11, and 29, Torres et al. teaches a valve element 43 (fig. 5) disposed in a valve chamber and a fluid conduit 81 adjoining the valve chamber on the

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upstream side of the valve chamber, the fluid conduit has a substantially constant width; the fluid conduit includes a first conduit portion 81 and a second conduit portion (portion engaging coupling portion 21), the longitudinal axes of the first and second conduit portions being at an angle less than 180 degrees to one another (see fig. 5 below); the first conduit portion 81 and the second conduit portion form an angle greater than 90 degrees (see fig. 5 below), but fails to disclose the conduit is capable of producing a swirl-type rotation about the longitudinal axis of the fluid conduit; the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion.



Nitzberg et al. teaches a fluid conduit (see fig. 2 above) has a substantially constant width and is capable of producing a swirl-type rotation about the longitudinal axis of the fluid conduit being impressed on the fluid stream that flows toward the valve chamber 48, and the longitudinal axis of the first conduit portion being laterally offset from the longitudinal axis of the second conduit portion, to permit the fuel to flow at high flow rates in a laminar fashion through the coupling.

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It would have been obvious to one of ordinary skill in the art, at the time of invention, to employ in Torres et al. a fluid conduit capable of producing a swirl-type rotation about the longitudinal axis of the fluid conduit, as taught by Nitzberg et al., for the purpose of permitting fuel to flow in a laminar fashion through the coupling, producing high flow rates for supplying fuel to large vehicles within a reasonable time.

Claims 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torres et al. (3,797,510) and Nitzberg et al. , in view of Meisenheimer, Jr. et al. (3,912,656).

Regarding claims 14 and 28, Torres et al. teaches essentially all claimed features, but fails to disclose a ball as the valve element.

Meisenheimer, Jr. et al. teaches a valve element being a ball, to present a smooth surface which cannot be forced open by impinging debris upon closing.

It would have been obvious to one of ordinary skill in the art at the time of invention, to employ in Torres et al. a ball as the valve element, as taught by Meisenheimer, Jr. et al., for the purpose of preventing the introduction of debris into the valve.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MACADE BROWN whose telephone number is (571)270-5428. The examiner can normally be reached on Mon-Thurs, 8am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MACADE BROWN /
Examiner, Art Unit 3753

/Robin O. Evans/
Supervisory Patent Examiner, Art Unit 3753